Automated Trash Collection
Pilot Program Results

Background

In 2016, the Board of Mayor and Aldermen (BMA) approved a pilot program for automated trash collection limited to wards 6, 7 and 12. Beginning May 1, 2017, the Department of Public Works has used an automated truck to collect trash in selected areas of these wards.

What is Automated Trash Collection?

Automated trash collection is the **use of a garbage truck operated by a single individual and fitted with a mechanical arm** that grabs and empties trash carts.

Why Automated Collection?

There are **three primary reasons** to consider automated collection:

- **Worker Safety –** Refuse Collector is the fifth most dangerous job in the country (Bureau of Labor Statistics). Automated collection reduces injuries by eliminating the most dangerous aspects of the collection process.
- **Cleaner Neighborhoods –** The trash carts required by automated technology reduce litter generated by animals ripping into unprotected bags. They also ensure a tidy, uniform placement of trash on collection day.
- **Enhanced Services –** Automated trucks are operated by a single individual, as opposed to a driver and two collectors. This allows personnel to be re-assigned to address other critical needs.

Operator uses mechanical arm on Manchester's automated truck to lift and empty a trash cart

Pilot Program Design

Following were the **primary elements** of the pilot program:

DPW purchased and mobilized **one automated collection truck** in portions of wards 6, 7 and 12.

Per direction from the BMA, **trash carts were sold at a 50% discount** to pilot area customers.

The automated truck was deployed May 1, 2017, and **data were collected for one year**.

Pilot Program Results

DPW tracked **customer compliance with placement rules, worker safety, use of reassigned personnel, and customer satisfaction.** Following are the results through one year.

Compliance with Placement Rules

The automated collection process requires that trash be placed in a container compatible with the truck's mechanical arm, and that containers be placed free of obstruction. **Customer compliance was attained quickly:** it was 98.7% in Week 1 and rose to 99.9% by the end of the first month.

Worker Safety

Zero injuries were incurred. During the same period, 56 injuries were sustained on the City's non-automated trucks. These resulted in over 4,200 lost hours and $180,000 in workers compensation costs.

Without Automated Collection?

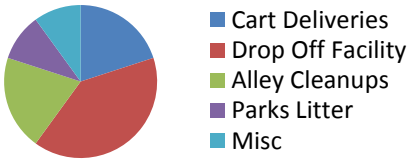
Had the automated collection areas been done with a standard truck, DPW estimates:

- **Seven additional employee injuries**
- **525 more hours lost to injury**
- **$24,000 more in workers comp claims**

Use of Reassigned Personnel

Personnel freed up by the use of the automated truck were **reassigned to add new services or augment existing ones.** The pie chart to the right shows time allocated to different tasks.

Use of Reassigned Personnel, By Time



Customer Satisfaction

At the one-year mark, DPW distributed a **postage-paid, mail-in survey** to all pilot area customers. 857 responses were received, for a response rate of 30%.

Among respondents, **90% said their service was better or about the same** under automated collection, with half reporting an improvement. **79% expressed a favorable opinion** of automated collection.

Quality of Service with Automated Collection

Better	About the Same	Worse	Unanswered
50%	40%	8%	2%

58% of respondents took advantage of the opportunity to write in comments. Of these, the most common ones were:

- General expressions of praise – 25%
- Neighborhood cleaner/neater – 16%
- Occasional extra trash not taken – 12%

Overall Opinion of Automated Collection

Favorable	Unfavorable	No Opinion	Unanswered
79%	13%	7%	1%